

| L Number | Hits | Search Text                                    | DB   | Time stamp       |
|----------|------|--|--|------------------|
| -        | 2    | ("5295355" "5435136").pn.                      | USPAT  | 2004/09/08 12:26 |
| -        | 18   | "pulse tube" and regenerator and fins          | USPAT  | 2004/10/18 12:32 |
| -        | 14   | 62/\$.ccls. and regenerator.ti. and fins       | USPAT  | 2004/08/30 16:13 |
| -        | 6    | 165/\$.ccls. and regenerator.ti. and fins      | USPAT  | 2004/08/30 16:19 |
| -        | 143  | 62/6.cccls. and "pulse tube"                   | USPAT  | 2004/08/30 16:22 |
| -        | 113  | 62/6.cccls. and "pulse tube" and regenerator   | USPAT  | 2004/10/18 10:17 |
| -        | 1520 | 165/10.cccls.                                  | USPAT; US-PGPUB; EPO; JPO; DERWENT;            | 2004/08/30 16:27 |
| -        | 11   | 165/10.cccls. and "pulse tube"                 | IBM TDB<br>USPAT; US-PGPUB; EPO; JPO; DERWENT; | 2004/08/30 16:29 |
| -        | 122  | 165/10.cccls. and fins                         | IBM TDB<br>USPAT; US-PGPUB; EPO; JPO; DERWENT; | 2004/08/31 14:38 |
| -        | 23   | 165/10.cccls. and fins                         | IBM TDB<br>USOCR                               | 2004/08/31 08:12 |
| -        | 0    | ("heat exchanger" and fins).ab.                | USOCR  | 2004/08/31 08:13 |
| -        | 8949 | ("heat exchanger" and fins).ab.                | USPAT; US-PGPUB; EPO; JPO; DERWENT;            | 2004/08/31 08:13 |
| -        | 5945 | ("heat exchanger" with fins).ab.               | IBM TDB<br>USPAT; US-PGPUB; EPO; JPO; DERWENT; | 2004/08/31 08:13 |
| -        | 1797 | ("heat exchanger" with fins).ti.               | IBM TDB<br>USPAT; US-PGPUB; EPO; JPO; DERWENT; | 2004/08/31 08:13 |
| -        | 55   | ("heat exchanger" with fins).ti. and spiral\$3 | IBM TDB<br>USPAT; US-PGPUB; EPO; JPO; DERWENT; | 2004/08/31 09:38 |
| -        | 1    | 2004-536519.NRAN.                              | DERWENT  | 2004/08/31 08:15 |
| -        | 5    | ("heat exchanger" with fins).ti. and star      | USPAT; US-PGPUB; EPO; JPO; DERWENT;            | 2004/08/31 09:40 |
| -        | 0    | ("heat exchanger" with fins).ti. and star      | IBM TDB<br>USOCR                               | 2004/08/31 09:40 |
| -        | 23   | ("heat exchanger" with fins).ab. and star      | USPAT; US-PGPUB; EPO; JPO; DERWENT;            | 2004/08/31 10:20 |
| -        | 415  | "pulse tube refrigerator"                      | IBM TDB<br>USPAT; US-PGPUB; EPO; JPO; DERWENT; | 2004/08/31 14:42 |
| -        | 1    | 2001-245435.NRAN.                              | IBM TDB<br>DERWENT                             | 2004/08/31 10:32 |
| -        | 1    | 2002-112119.NRAN.                              | DERWENT  | 2004/08/31 10:44 |
| -        | 1    | 2003-372439.NRAN.                              | DERWENT  | 2004/08/31 10:58 |
| -        | 1    | 2003-570276.NRAN.                              | DERWENT  | 2004/08/31 11:09 |
| -        | 1    | 2004-349842.NRAN.                              | DERWENT  | 2004/08/31 11:16 |
| -        | 48   | "pulse tube" and "LG electronics".as.          | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB    | 2004/08/31 14:36 |

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| - | 31  | 165/10.ccls. and fins and (regenerative regeator accumulator)   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2004/08/31 14:41 |
| - | 8   | 165/10.ccls. and fins and (stirling gifford)  | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB | 2004/08/31 14:42 |
| - | 2   | "pulse tube refrigerator"   | USOCR                                       | 2004/08/31 14:46 |
| - | 654 | (regenerator accumulator) and fins  | USOCR                                       | 2004/08/31 14:46 |
| - | 60  | (regenerator accumulator) with fins   | USOCR                                       | 2004/08/31 15:17 |
| - | 8   | 3413802.URPN.   | USPAT                                       | 2004/08/31 14:49 |
| - | 2   | ("5918470"   "5613367").PN.   | USPAT                                       | 2004/08/31 15:18 |
| - | 3   | ("3526099"   "3817044"   "4845953").PN.   | USPAT                                       | 2004/08/31 15:55 |
| - | 7   | ("4024727"   "4335579"   "4570445"   "4717405"   "5172554"   "5269147"   "5275002").PN.   | USPAT                                       | 2004/08/31 15:58 |
| - | 5   | ("3719051"   "4206609"   "5259197"   "55465579"   "5505047").PN.  | USPAT                                       | 2004/08/31 16:00 |
| - | 6   | 5632149.URPN.   | USPAT                                       | 2004/08/31 16:01 |
| - | 0   | 6745822.URPN.   | USPAT                                       | 2004/08/31 16:03 |
| - | 12  | ("0008487"   "2267619"   "3373798"   "3384157"   "3463222"   "3468634"   "3491184"   "3907028"   "3910344"   "4084633"   "4200441"   "5429177").PN.   | USPAT                                       | 2004/08/31 16:03 |
| - | 13  | ("2900798"   "3216484"   "3692095"   "3692099"   "3960204"   "4201206"   "4259844"   "4429732"   "4478046"   "4612912"   "4830092"   "5165466"   "5522223").PN.   | USPAT                                       | 2004/08/31 16:04 |
| - | 3   | 5746269.URPN.   | USPAT                                       | 2004/08/31 16:05 |
| - | 19  | ("3216484"   "3692095"   "3692099"   "3960204"   "4209061"   "4259844"   "4357987"   "4478046"   "4612912"   "4830092"   "4901787"   "5165466"   "5286345"   "5351490"   "5429177"   "5469709"   "5522223"   "5746269"   "5920133").PN. | USPAT                                       | 2004/08/31 16:06 |
| - | 3   | 4103408.URPN.   | USPAT                                       | 2004/08/31 16:14 |
| - | 2   | ("1734136"   "3100930").PN.   | USPAT                                       | 2004/08/31 16:14 |
| - | 5   | 5582246.URPN.   | USPAT                                       | 2004/08/31 16:15 |
| - | 14  | ("1634110"   "1992646"   "2089340"   "2537984"   "2656808"   "2737370"   "3011466"   "3190353"   "3292692"   "3384168"   "3921556"   "4580623"   "5042576"   "5117905").PN.   | USPAT                                       | 2004/08/31 16:15 |
| - | 2   | 5682784.URPN.   | USPAT                                       | 2004/08/31 16:17 |
| - | 13  | ("1640147"   "1862219"   "1887036"   "2789797"   "3003749"   "3145586"   "4067219"   "4328861"   "4469168"   "4676304"   "4815531"   "5372187"   "5511610").PN.   | USPAT                                       | 2004/08/31 16:17 |
| - | 9   | ("2162083"   "3301319"   "3672446"   "4114598"   "4131110"   "4479359"   "4487256"   "4679617"   "4759402").PN.   | USPAT                                       | 2004/08/31 16:18 |
| - | 11  | ("1808921"   "3367406"   "3397738"   "4386505"   "4392362"   "4489570"   "4516632"   "4619112"   "4651808"   "4959275"   "4993487").PN.   | USPAT                                       | 2004/08/31 16:20 |
| - | 5   | 3367406.URPN.   | USPAT                                       | 2004/08/31 16:22 |
| - | 5   | ("5152147"   "5186765"   "5224657"   "5298337"   "5332029").PN.   | USPAT                                       | 2004/08/31 16:22 |
| - | 29  | regenerator.ti. and fins  | USPAT                                       | 2004/08/31 16:27 |
| - | 21  | regenerator.ti. and fins  | USOCR                                       | 2004/08/31 16:29 |
| - | 50  | regenerator.ti. and (stirling gifford pulse)  | USOCR                                       | 2004/08/31 16:31 |

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| - | 271 | regenerator.ti. and (stirling gifford)   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/08/31 16:32 |
| - | 17  | regenerator.ti. and (stirling gifford) and fin   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/08/31 16:33 |
| - | 293 | regenerator.ti. and (stirling gifford)   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/09/02 08:46 |
| - | 2   | ("6062023" "6381958").PN.  | USPAT                                       | 2004/09/02 08:00 |
| - | 6   | ("3742578"   "3782457"   "4041592"   "4191241"   "5675974"   "6347453").PN.  | USPAT                                       | 2004/09/02 08:14 |
| - | 1   | 2003-179535.NRAN.  | DERWENT                                     | 2004/09/02 08:40 |
| - | 1   | 2000-185532.NRAN.  | DERWENT                                     | 2004/09/02 08:45 |
| - | 10  | regenerator.ti. and (stirling gifford)   | USOCR                                       | 2004/09/02 09:22 |
| - | 0   | 8204100.URPN.  | USPAT                                       | 2004/09/02 09:17 |
| - | 30  | regenerator.ti. and fins   | USOCR                                       | 2004/09/02 10:13 |
| - | 8   | 3413802.URPN.  | USPAT                                       | 2004/09/02 09:23 |
| - | 53  | "global cooling".as.   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/09/02 10:14 |
| - | 15  | berchowitz.in. and regenerator   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/09/02 10:16 |
| - | 138 | "thermal regenerator"  | USPAT                                       | 2004/09/08 12:36 |
| - | 160 | "thermal regenerator"  | USPAT                                       | 2004/09/08 12:36 |
| - | 22  | "thermal regenerator" not "thermal regenerator"  | USPAT                                       | 2004/09/08 12:37 |
| - | 11  | 3774405.URPN.  | USPAT                                       | 2004/09/08 12:40 |
| - | 3   | ("1275507"   "3220201"   "3552120").PN.  | USPAT                                       | 2004/09/08 12:42 |
| - | 179 | 62/6.cccls. and (fins finned)  | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/10/18 10:17 |
| - | 134 | 62/6.cccls. and (fins finned) and regenerator  | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/10/18 10:17 |
| - | 22  | 62/6.cccls. and (fins finned) with regenerator   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/10/18 10:53 |
| - | 123 | pulse and regenerator and (fin finned)   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/10/18 10:54 |
| - | 24  | ("3451395"   "3502080"   "3668888"   "4037631"   "4206609"   "4519389"   "5132089"   "5207674"   "5277030"   "55603221"   "5758505"   "5910104"   "5992158"   "6017337"   "6035657"   "6096032"   "6126684"   "6151901"   "6182666"   "6193644"   "6237355"   "6270494"   "6364899"   "6430956").PN. | USPAT                                       | 2004/10/18 12:30 |

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| - | 40 | "pulse tube" and regenerator and (fin finned)   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/10/18 12:53 |
| - | 7  | "pulse pipe" and regenerator and (fin finned)   | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/10/18 13:02 |
| - | 9  | ("3220201"   "3788088"   "4010621"   "4872313"   "5113662"   "5174130"   "5465579"   "5609034"   "5693991").PN. | USPAT                                       | 2004/10/18 12:57 |
| - | 47 | ((pulse pulsation) adj (tube pipe)) and regenerator and (fin finned)  | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/10/18 13:15 |
| - | 5  | ("5966942"   "6021643"   "6351954"   "6378312"   "6389819").PN.   | USPAT                                       | 2004/10/18 13:07 |
| - | 93 | ((pulse pulsation) adj (tube pipe)) and (fin finned)  | USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB | 2004/10/18 13:16 |
| - | 25 | (MRI "magnetic resonance imaging") and "pulse tube"   | USPAT                                       | 2004/10/19 10:02 |
| - | 19 | "pulse tube" with (insulated insulation)  | USPAT                                       | 2004/10/19 10:03 |